

AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions, and listings, of claims in the application:

1.-17. (Canceled)

18. (Previously Presented) A fluid outlet chamber regulator for a cooling circuit of a cylinder head of an internal combustion engine, the chamber regulator comprising:

a chamber component having an inlet and an outlet configured to regulate fluid, and the chamber component having at least one opening formed in an inner wall of the chamber component between the inlet and the outlet;

a flow passage regulator which regulates a flow of the fluid passing through the chamber component in a longitudinal direction of the chamber regulator, the flow passage regulator having a valve movable in the longitudinal direction and configured to close a passage cross-section positioned between the inlet and the outlet of the chamber component, the valve being fixed to a longitudinally extending control shaft; and

a closure configured to translate with the control shaft, the closure having two flat surface supports which extend parallel to two corresponding flat inner wall surfaces provided on the inner wall of the chamber component, wherein engagement between the two flat surface supports and the two corresponding flat inner wall surfaces provides two sliding contact surfaces as the closure translates within the chamber component, the closure being positioned on the shaft and having a shape configured to regulate the fluid

flow passing through the opening in accordance with a regulation of the fluid flow through the passage cross-section, wherein

        during translation of the closure within the chamber component, the closure is locked against rotation.

19. (Previously Presented) The fluid outlet chamber regulator according to claim 18, wherein variations in fluid flow resulting from a displacement of the shaft in a region of the passage cross-section and in a region of the opening develop in the same way.

20. (Previously Presented) The fluid outlet chamber regulator according to claim 18, wherein variations in fluid flow resulting from a displacement of the shaft in a region of the passage cross-section and in a region of the opening develop in opposing manners.

21. (Previously Presented) The fluid outlet chamber regulator according to claim 18, wherein the chamber component has a generally cylindrical shape and an internal portion defined by longitudinally extending segments, and the surface supports of the closure being connected to each other by a brace, wherein a distance between the surface supports is of such a length that the closure is guided in translation into the chamber component.

22. (Previously Presented) The fluid outlet chamber regulator according to claim 21, wherein at least one of the surface supports is located in a region of, and surrounds, the opening, and wherein the at least one of the surface supports is configured to gradually close the opening and has a cut-out surface part.

23. (Previously Presented) The fluid outlet chamber regulator according to claim 21, wherein the surface supports have a protruding excess thickness forming a prominent flat surface configured to limit surface contact between the surface supports of the closure and the inner wall of the chamber component, so as to limit friction between the surface supports and the inner wall of the chamber component and simultaneously guide the closure within the chamber component.

24. (Previously Presented) The fluid outlet chamber regulator according to claim 21, wherein the brace comprises a first brace having a tapered blade, and wherein second and third braces connect the surface supports by substantially matching an internal shape of the chamber component, so as to limit disruption of fluid flow through the chamber component.

25. (Previously Presented) The fluid outlet chamber regulator according to claim 21, wherein a fourth brace, encompassing the hub of the shaft of the flow passage regulator, is provided to connect the second and third braces to each other, so as to stiffen the structure of the closure.

26. (Previously Presented) The fluid outlet chamber regulator according to claim 25, wherein the flow passage regulator is fixed to the inner wall of the chamber component via a stress-retrieving stirrup, the stirrup resting on two interior projections which provide permanent supporting surfaces for the stirrup, each of the first and second braces have a recess configured to cooperate with corresponding interior projections of the inner wall of the chamber component, wherein the fourth brace connecting the first and second braces and the stress-retrieving stirrup is disposed, in the assembly position of the closure, on the

flow passage regulator, and a same exposed surface is superimposed on said fourth brace and said stirrup in the direction of flow, so as to limit losses in pressure of the fluid flow passing through the component.

27. (Previously Presented) The fluid outlet chamber regulator according to claim 26, wherein a section of the fourth brace, in the longitudinal direction, decreases in the direction of flow, and wherein the cross-section of the fourth brace is substantially triangular.

28. (Previously Presented) The fluid outlet chamber regulator according to claim 18, wherein the flow passage regulator comprises one of a thermoactive and heat-responsive component immersed in the fluid present in the chamber component and activating the translation of the valve.

29. (Previously Presented) The fluid outlet chamber regulator according to claim 18, wherein the closure has, in a region of the surface supports intended to slide along a corresponding one of the flat inner wall surfaces of the chamber component having the lateral opening, at least one support element for at least one corrugated gasket configured to flatten the surface supports against the inner wall of the chamber component, so as to increase the tightness between the closure and the internal wall of the component, in the region of the lateral opening.

30. (Previously Presented) The fluid outlet chamber regulator according to claim 18, wherein the closure is in the form of a frame forming a ring, the section of which is

dimensioned relative to the section of the chamber component, and having two wings forming the surface supports.

31. (Previously Presented) The fluid outlet chamber regulator according to claim 18, wherein the chamber component has, in the region of the lateral opening, a pipe forming an exterior conduit segment that is continuous with the closure, thereby providing a bypass fitting towards a new circuit loop or branch.

32. (Previously Presented) The fluid outlet chamber regulator according to claim 18, further comprising one of a pipe and exterior connection fitting in the region of the opening of the passage merging into the chamber component.

33. (Previously Presented) The fluid outlet chamber regulator according to claim 18, wherein the chamber component also has an additional lateral opening, which is extended by an exterior pipe configured to receive a temperature sensor.

34. (Previously Presented) The fluid outlet chamber regulator according to claim 18, wherein the chamber component also comprises an additional opening, formed in its lateral wall, and a closure component, which is integral in translation with the shaft and is positioned on the shaft, and has a shape that is configured to regulate the flow of fluid passing through the additional opening as a function of the regulation of the flow in the region of the passage.

35. (Currently Amended) The fluid outlet chamber regulator according to claim 18 ~~claim 4~~, wherein the chamber component is stationary.